

## DESCRIPTIONS OF NEW HYMENOPTERA. 1

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In this paper some new parasites from the United States are described, together with two new species of bees which were found while arranging part of the collections of bees. There are also new species of parasites from Japan, described mostly from a small collection of reared Hymenoptera sent in for determination by Mr. Takeshi Fukai, of Konosu, Saitama, Japan.

### Family ANDRENIDÆ.

#### NOMIA HOWARDI, new species.

*Female*.—Length about 9 mm. Black, with opalescent bands on the apical margins of segments 1–4; face below antennæ with coarse sparse punctures; those on the clypeus more scattered; above antennæ with fine scattered punctures; mesonotum anteriorly and laterally with close, coarse punctures; disk of mesonotum and metanotum (postscutellum of authors) almost impunctured, polished; truncation of propodeum with sparse, large, setigerous punctures, the surface between with fine shallow punctures and almost hidden by the silky white pubescence; metapleuræ striate; wings subhyaline, the apical margin with a broad infuscated band; legs brown, the hind tibiæ and tarsi reddish-brown; outer spur of hind tibiæ bent at an obtuse angle; abdomen finely reticulated and with sparse, fine punctures; opalescent bands, except the first, broad, but not covering the depressed apical margins of the segments, the dark portion punctured.

One specimen from San Jose de Guaymas, Mexico. Dr. L. O. Howard, collector.

*Type*.—Cat. No. 13455, U.S.N.M.

Named for Dr. L. O. Howard.

## NOMIA MOCTEZUMÆ, new species.

*Female*.—Length 8 mm. Very similar to *mesillensis*, but differs as follows: Punctures of the mesonotum smaller and uniform in size; the metapleuræ finely striate and with minute punctures between the striæ (in *mesillensis* the metapleuræ have a few coarse striæ and the upper part punctured); mesopleuræ with finer punctures; punctures of truncation of propodeum separated by two or more times their own diameter, the sculpture of the intervening spaces much finer; hind tibiæ and tarsi brown; outer spur of hind tibiæ at apex bent at right angles; punctures of abdomen coarser and closer and lineolation more apparent; opalescent bands much narrower.

One specimen from San Jose de Guaymas, Mexico. Dr. L. O. Howard, collector.

*Type*.—Cat. No. 13456, U.S.N.M.

## Family PTEROMALIDÆ.

## TRICHOMALUS APANTELOCTENUS, new species.

*Female*.—Length about 1.75 mm. Bright green, the head and thorax including the propodeum, with shallow thimble-like punctures; antennæ brown, with two ring joints, the scape testaceous; joints of the funicle subquadrate, the pedicel longer than the first; antennæ inserted just above the lower level of the eyes; mandibles with four distinct teeth; occiput margined; prothorax anteriorly truncate; propodeum with a long neck, with a median and lateral carinæ; spiracles small, elongate; postmarginal vein about as long as the marginal; the stigmal vein shorter; legs, except the green coxæ, testaceous; abdomen depressed.

*Male*.—Length 1.5 mm. Similar to the female, the front coxæ light with a green spot exteriorly, the middle coxæ entirely testaceous.

Konosu, Saitama, Japan. Five females and one male reared from an *Apanteles* on *Naraga diffusa* by T. Fukai.

*Type*.—Cat. No. 13457, U.S.N.M.

One female paratopotype does not show any indication of a median carina on the propodeum.

## Family EULOPHIDÆ.

## DIPACHYSTIGMA, new genus.

*Type*.—*D. cushmani* Crawford.

Belongs to the Tetracampini; antennæ clavate, inserted near the mouth parts, twelve-jointed (fig. 1) with three ring joints; joints of club fused; submarginal vein appearing broken (fig. 2), since basad of the apparent break the upper (anterior) margin of the vein is colored and the lower part is not, and beyond the apparent break the

lower margin is colored and the upper is not; marginal vein at base with an enlarged parastigma; stigmal vein and knob enlarged; postmarginal indistinct because almost colorless; tarsi in female five-jointed; parapsidal furrows complete; scutellum without longi-

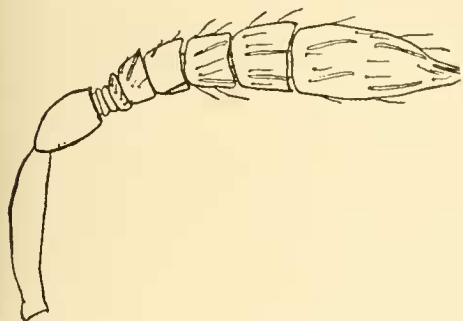


FIG. 1.—DIPACHYSTIGMA CUSHMANI. ANTENNA OF FEMALE.

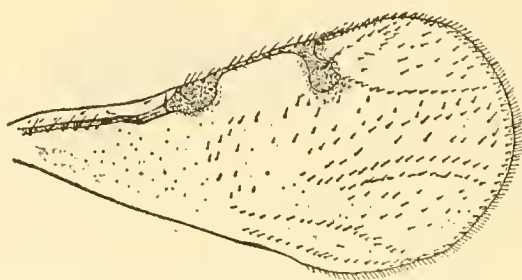


FIG. 2.—DIPACHYSTIGMA CUSHMANI. FORE RING OF FEMALE.

tudinal lines; propodeum short, median carina indistinct, spiracles small, round, placed in depressions.

To this tribe belongs apparently the genus *Pleuropachus* Westwood, which has the marginal vein enlarged and the stigmal knob also enlarged.

**DIPACHYSTIGMA CUSHMANI, new species.**

*Female*.—Length about 1 mm. Head dark blue, the mesonotum greenish, the abdomen aeneous, with blue at the base and sides; head closely punctured, but so finely that the surface appears granular; antennæ brown, the scape at apex whitish; mesonotum with fine thimble-like punctures; propodeum smooth; prepectus punctured, mesepisternum finely striate, the rest of the mesopleuræ smooth; legs dark brown with more or less metallic lustre, the tarsi whitish; wings subhyaline, stigmal vein and parastigma surrounded by small stigmal clouds (represented in fig. 2 by the stippling); abdomen smooth, shiny.

*Male*.—Unknown.

Described from eighteen specimens bred from *Stephanoderes*, species, at Tallulah, Louisiana, by Mr. R. A. Cushman, Bureau of Entomology, Department of Agriculture, and recorded under Hopkins number 8634.

*Type*.—Cat. No. 13458, U.S.N.M.

Named for Mr. R. A. Cushman.

**PLEUROTROPIS ATAMIENSIS Ashmead.**

This species, which was described by Doctor Ashmead without the host being known, was reared by Mr. T. Fukai at Konosu, Japan, together with *Euplectrus fukaii*, from *Naraga diffusa*, and is probably a secondary parasite on the *Euplectrus*.

## WINNEMANA, new genus.

*Type*.—*W. argei* Crawford.

Belongs to Tetrastichini; antennæ very similar in the two sexes, nine-jointed, scape, pedicel, two ring joints, funicle two-jointed, club three-jointed (fig. 3); mesonotum without a median furrow; pronotum transverse; scutellum with two longitudinal lines; submarginal vein slightly shorter than marginal; stigmal vein about one-half as long as marginal; propodeum with a median carina; spiracles small, round; abdomen short, broadly ovate.

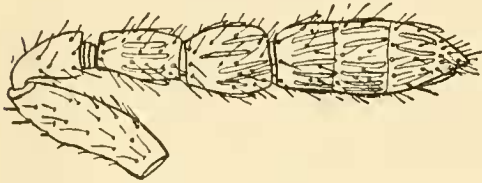


FIG. 3.—WINNEMANA ARGEI. ANTENNA OF FEMALE.

This genus is readily recognized by the funicle having only two segments.

## WINNEMANA ARGEI, new species.

*Female*.—Length about 1 mm. Head and thorax black, abdomen brown; antennæ brown, the scape darker, the pedicel at apex light yellowish; mesonotum finely reticulated; propodeum indistinctly finely irregularly reticulated; mesopleuræ finely, indistinctly reticulate; coxæ black, femora with the basal two-thirds dark brown, rest of legs yellowish.

*Male*.—Length about 1 mm. Very similar to the female, except in secondary sexual characters.

*Habitat*.—Plummer's Island, Maryland.

Described from many specimens reared from the eggs of *Arge*, species. This is the species recorded by Mr. E. A. Schwarz<sup>a</sup> as *Hylotoma pectoralis* Leach.

*Type*.—Cat. No. 13459, U.S.N.M.

## Genus EUPLECTRUS Westwood.

The following table will separate the species of this genus found in Japan:

- |  |                                |   |
|--|--------------------------------|---|
| 1. Head and thorax partly yellow.....                                  | <i>nigromaculatus</i> Ashmead. | 2 |
| Head and thorax, black.....  |                                | 3 |
| 2. All coxæ pale.....  |                                | 4 |
| Hind coxæ black.....   | <i>japonicus</i> Ashmead.      |   |
| 3. Scutellum finely indistinctly reticulated.....                      |                                |   |
| Scutellum at basal deeply reticulated, apically longitudinally rugose, |                                |   |
|  | <i>fukaii</i> , new species.   |   |
| 4. Clypeal area black.....   | <i>kabelei</i> , new species.  |   |
| Clypeal area white.....  | <i>kuwanæ</i> , new species.   |   |

## EUPLECTRUS FUKAII, new species.

*Female*.—Length about 2 mm. Head and thorax black, clypeal area whitish; antennæ testaceous, becoming brown apically; pedicel

<sup>a</sup> Proc. Ent. Soc. Wash., vol. 11, 1909, pp. 106-108.



about one-half as long as first joint of funicle, following joints of funicle successively shorter, the last longer than wide; median lobe of mesonotum coarsely rugoso-reticulate, the lateral lobes more finely and indistinctly so; scutellum and axillæ finely, indistinctly reticulated with impressed lines; legs entirely reddish-testaceous, longer spur of hind tibiæ as long as first two joints of hind tarsi; first joint of hind tarsi not much longer than second; abdomen with a large basal testaceous spot.

*Male*.—Unknown.

*Habitat*.—Japan.

Atami, A. Koebele, collector, seven specimens; also one paratype from Konosu, Saitama, T. Fukai, collector, reared from *Naraga diffusa*.

*Type*.—Cat. No. 13460 U.S.N.M.

Named in honor of Mr. Takeshi Fukai, who collected one of the series.

**EUPLECTRUS KOEBELEI, new species.**

*Female*.—Length, 2 mm. Head and thorax, including clypeal region, black; scape and pedicel yellowish, funicle brownish, becoming darker apically; first joint of funicle not distinctly longer than pedicel, following joints shorter, hardly longer than wide; median lobe of mesonotum coarsely rugosely reticulated, posteriorly with a short median carina, lateral lobes with much finer sculpture; reticulations of axillæ and scutellum of impressed lines and still more indistinct; propodeum with a median and lateral carinæ, between these smooth; pleuræ smooth, legs, including coxæ, reddish testaceous; first joint of hind tarsi almost twice as long as second; longer spur on hind tibiæ as long as joints one and two of hind tarsi together; abdomen brownish, with a large basal testaceous spot, venter largely pale.

*Male*.—Unknown.

Hakone, Japan. A. Koebele, collector. Six specimens.

*Type*.—Cat. No. 13461, U.S.N.M.

Named in honor of Mr. Albert Koebele.

**EUPLECTRUS KUWANÆ, new species.**

*Female*.—Length about 2 mm. Head and thorax black, clypeal area white; scape and pedicel light yellow, funicle more brownish; pedicel distinctly shorter than first joint of funicle, following joints of funicle successively shorter, but even the last longer than broad; median lobe of mesonotum coarsely rugosely reticulated, the lateral lobes with somewhat finer reticulations; axillæ very indistinctly reticulated with impressed lines; scutellum with irregularly longi-

tudinal lines, basally these more or less reticulated; legs entirely yellowish; longer spur on hind tibiæ as long as first two joints of tarsi; first joint of hind tarsi almost twice as long as second; abdomen dark brown, with a large basal light spot; venter largely pale.

*Male*.—Length about 1.5 mm. Similar to the female, except in secondary sexual characters; the first joint of funicle about twice as long as the pedicel.

*Habitat*.—Japan.

One female and one male bred from *Parnara guttatus* by Prof. S. I. Kuwana; also three paratype specimens from Atami, A. Koebele, collector.

*Type*.—Cat. No. 13462, U.S.N.M.

Named in honor of Prof. S. I. Kuwana.

**ELACHERTUS HYPHANTRIÆ, new species.**

*Female*.—Length about 2 mm. Head and thorax purplish-black, the face more bronzy, the abdomen dark brown with a honey-colored spot at base; face almost smooth, occiput lineolate; head with many rather long hairs; antennæ brown; prothorax and mesothorax finely reticulated, inner edges of parapsidal areas smooth; scutellum, metathorax, and propodeum between the lateral folds polished; median carina of propodeum well developed; propodeum laterally finely roughened; wings hyaline, the veins almost colorless; legs, including the coxæ, light honey color; abdomen polished.

*Male*.—Unknown.

Five specimens, reared from *Hyphantria cunea* Drury, at Cuero, Texas.

*Type*.—Cat. No. 13463, U.S.N.M.

**CRATOTECHUS HOPLITIS, new species.**

*Female*.—Length about 2.5 mm. Head and thorax bright green; abdomen at base and apex green, a large reddish-testaceous band near base, back of this black; antennæ light brown, the pedicel shorter than the first joint of the funicle, about as long as the second; head lineolated, the lineolations somewhat reticulated; below the antennæ the face transversely rugulose; mesonotum with shallow thimble-like punctures; those on the scutellum finer; metathorax with similar, still finer punctures; propodeum with still finer punctures, which are somewhat irregularly thimble-like; propodeum with a median carina; spiracles large, round; prepectus and metapleuræ with thimble-like punctures; mesepisternum and lower part of mesepimerum with reticulations of raised lines somewhat like irregular, shallow thimble-like punctures; upper part of mesepimerum, in the shape of an inverted triangle, smooth; marginal vein about twice as long as the postmarginal; stigmal vein shorter than

the postmarginal; legs testaceous, the femora somewhat suffused with brown; anterior coxæ brown, the apical part testaceous; middle coxæ green exteriorly, anteriorly brown; hind coxæ green.

*Male*.—Unknown.

Konosu, Saitama, Japan. Eight specimens reared by T. Fukai on June 18, 1910; the host not given.

*Type*.—Cat. No. 13464, U.S.N.M.

Family TRICHOGRAMMIDÆ.

TRICHOGRAMMA JAPONICUM Ashmead.

Reared from the eggs of *Chilo simplex* at Konosu, Saitama, Japan, by Mr. T. Fukai.